

ART. V.—*On a new Holothurian of the Genus Taeniogyrus
found in Port Phillip Bay.*

By E. C. JOSHUA.

(With Plates III. and IV.).

[Read 11th April, 1912].

Taeniogyrus allani, sp. nov.

The *Chiridotinid* of which a description follows was first dredged by Mr. J. M. Allan, near Geelong, and was subsequently found by myself near Williamstown.

Description.—Tentacles ten, peltato-digitate, pigment spots at base.

Size.—8 centimetres in length, breadth about 6 mm.

Colour.—Carmine in life, in spirits white.

Calcareous deposits, consisting of wheels, sigmoid bodies, and rods. The wheels are principally confined to the three dorsal interambulacra and are grouped in round and irregularly-shaped papillae, except at the anterior and posterior ends, where they are thickly disposed all round the body. They have six spokes connecting with a peripherally hexagonal rim, the inner margin of which consists of alternate serrated convexities and unserrated smaller concavities. One side of the hub of the wheel is closed by a six-rayed plug, the other is open and surrounded by a dentated margin. The sigmoid bodies are scattered singly at fairly regular intervals and roughly at right angles to the axis of the body; they occur equally in all the interambulacra. The rods are confined to the margins of the tentacles and to the intertentacular web.

Habitat.—On mud banks, in from 5 to 10 fathoms, Port Phillip Bay.

Anatomy.—Genital glands: Two, single, unbranched, sexes separate.

Alimentary canal: Contorted axially.

Polian vessel: Single.

Stone canal: Apparently absent.

Calcareous ring: Consisting of ten pieces.

Two mounted specimens of an animal, which Mr. Allan declares to be identical with the present species, were sent by that gentleman to the President of the Royal Microscopical Society, London, who in turn submitted one of them to Professors R. Koehler and C. Vaney of Lyons. Prof. Vaney identified the specimen as *Trochodota*

dunedinensis, Parker (1). In November, 1910, I was fortunate enough to obtain a number of specimens of the same animal near Williamstown, and a careful examination convinced me that I was dealing with a different species from the above-mentioned. The accepted classification of the sub-family *Chiridotinae*, to which both *dunedinensis* and the present species belong, is that of Ostergren (2), who bases his arrangement on the presence or absence of calcareous deposits, and their disposition in the integument. Hubert Lyman Clark (3) in his monograph on the Apodous Holothurians gives a key to the genera and species comprised in the sub-family, and adopting a suggestion of Semper's (4), he establishes the genus *Taeniogyrus* to include those forms in which the wheel ossicles are collected in papillae; the genus *Trochodota*, Ludwig, being characterised by the wheels being scattered singly. The present species has the wheels definitely aggregated, and could not therefore be placed in the genus *Trochodota*, therefore further to consider its identity with *T. dunedinensis* is perhaps superfluous; it may, however, be pointed out that a comparison of the description and figures of the wheels of *dunedinensis* with that given by myself of that of the present species, shows marked variation. *T. allani* further differs in having but two genital tubes, as opposed to several in *T. dunedinensis*; and in having a contorted alimentary canal as opposed to the straight one of Parker's species. Its differentiation from its congener *Australiana*, Stimpson (6), and *T. contorta*, Ludwig, is fairly definite, and is rendered easier in the case of the former from the fact of the species having been reviewed by Clark (3). We have unfortunately no description of the wheel of *Australiana*, but as regards the distribution of the sigmoid ossicles, Clark confirms Stimpson's original observation, that they are in definite papillae; in *T. allani* they are invariably scattered. The genital tubes of *T. Australiana* are distinctly branched; in *T. allani* they are unbranched; size, colour and habitat are also different.

From *T. contorta*, it differs in the structure of the wheel ossicle. I am relying on Theel's (7) figure for this, as I could not get access to Ludwig's original paper. *T. contorta* has twelve tentacles, *T. allani* ten; *T. contorta* has branched genital glands, *T. allani* unbranched. *T. contorta* is viviparous (8), and though I have opened many specimens of *T. allani*, I have been unable to note this peculiarity in it.

Although I have pointed out above the error of Professor Vaney's diagnosis, I think it but fair to state that I think it was almost certainly due to the fact that he was furnished with an incomplete specimen; the slide submitted contained in reality only about 2 cm. of the anterior end of the animal. In this portion the aggregation of the ossicles into papillae is not definite, and unless the wheels were

